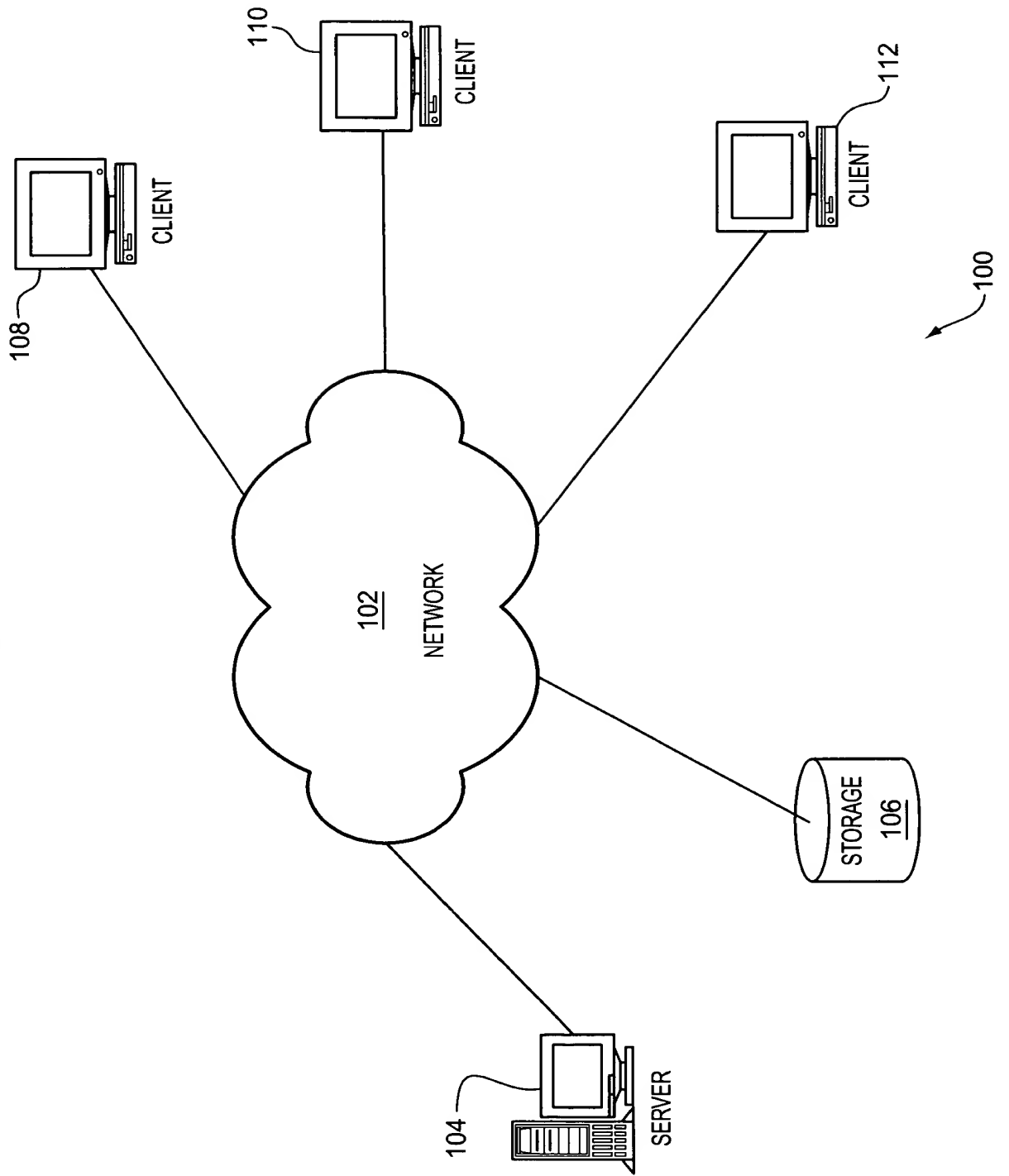




**FIG. 1**





**FIG. 2**

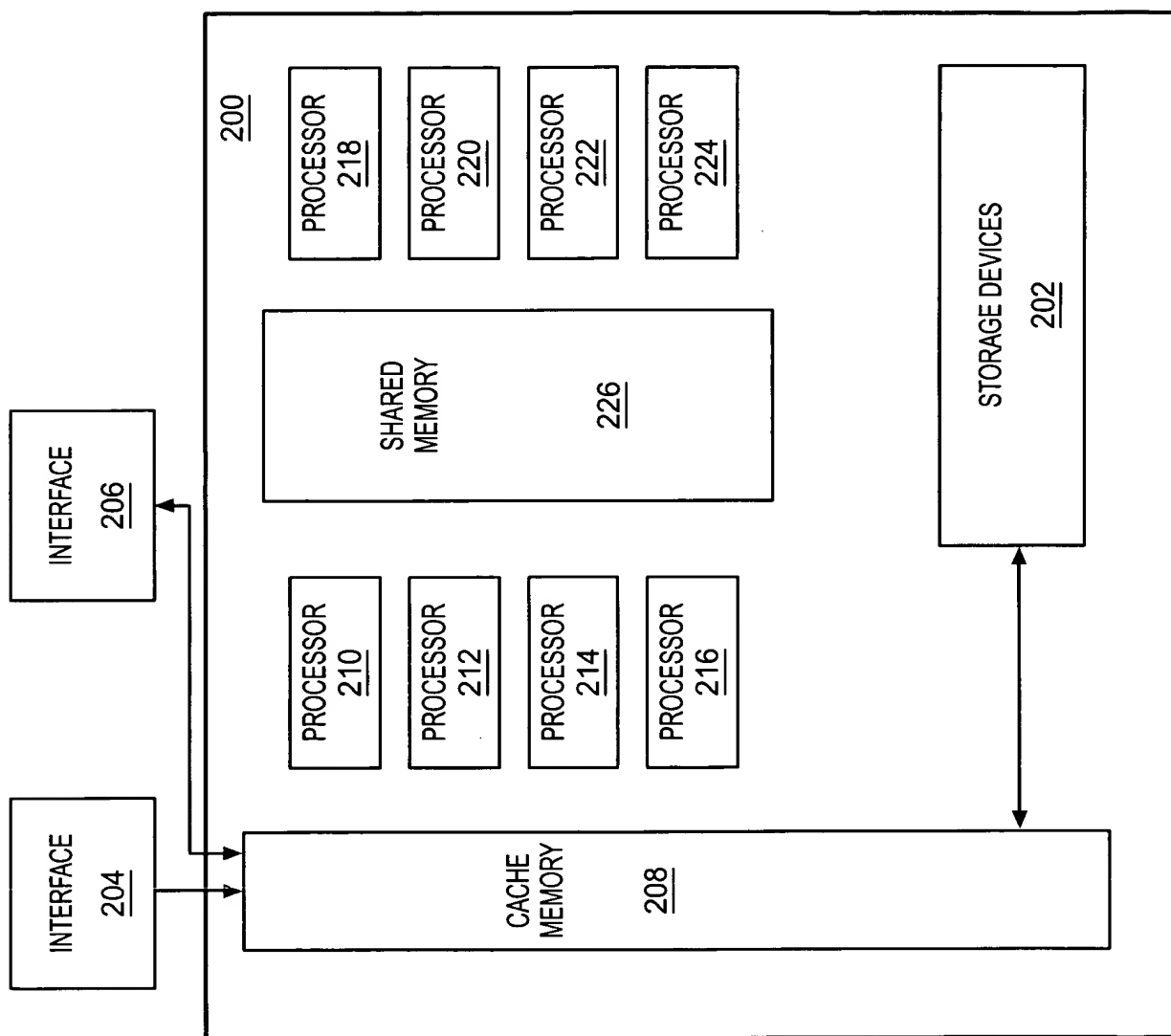




FIG. 3

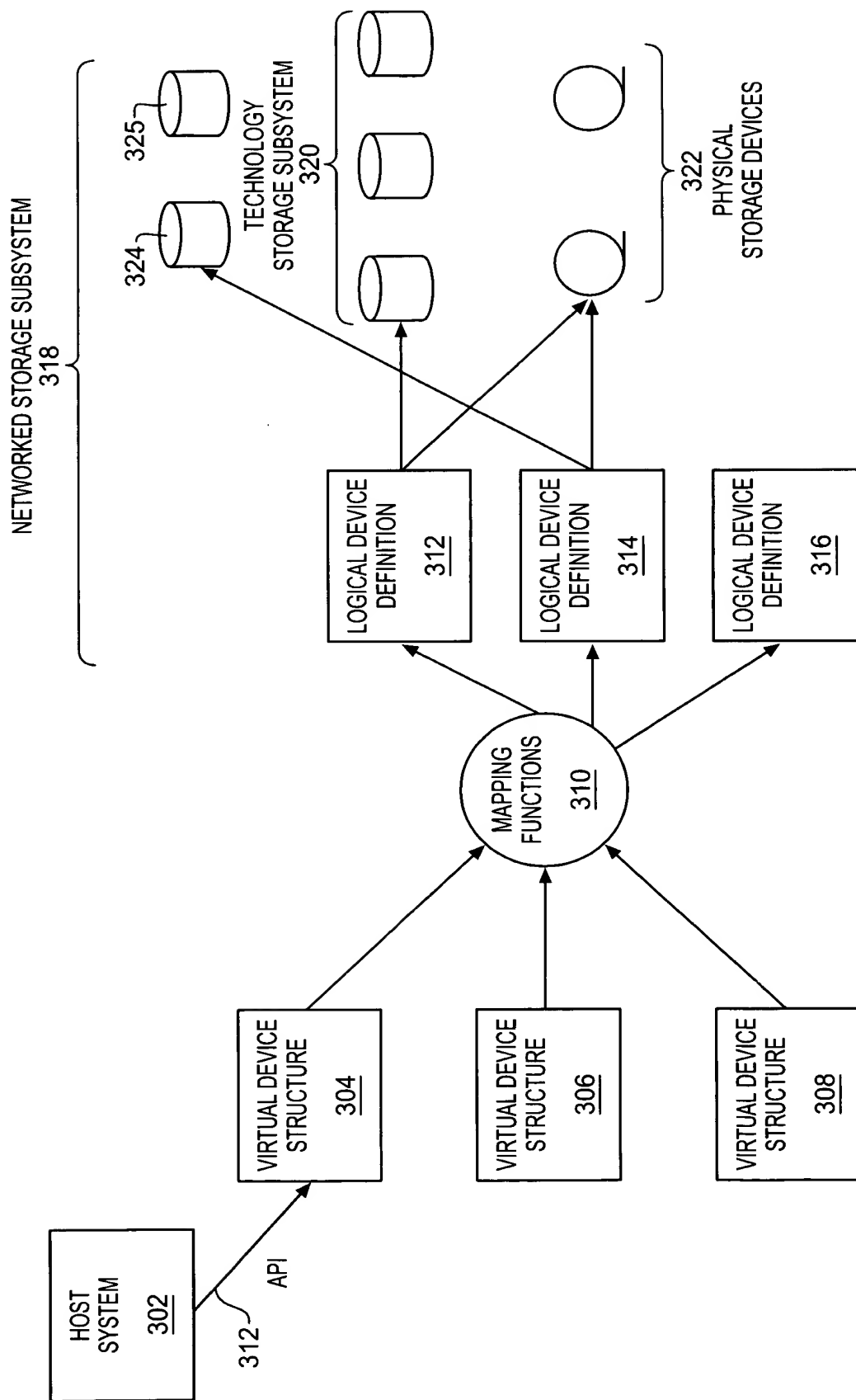


FIG. 4

402

RAID STRIPE GROUP A

DATA - RECORDS  $n_j$  THROUGH  $n_k$ ; RECORDS  $n_{y+1}$  THROUGH  $n_z$

404

RAID STRIPE GROUP B

DATA - RECORDS  $n_{k+1}$  THROUGH  $n_x$ ; RECORDS ...

406

RAID STRIPE GROUP C

DATA - RECORDS  $n_{x+1}$  THROUGH  $n_y$ ; RECORDS ...



**FIG. 5**

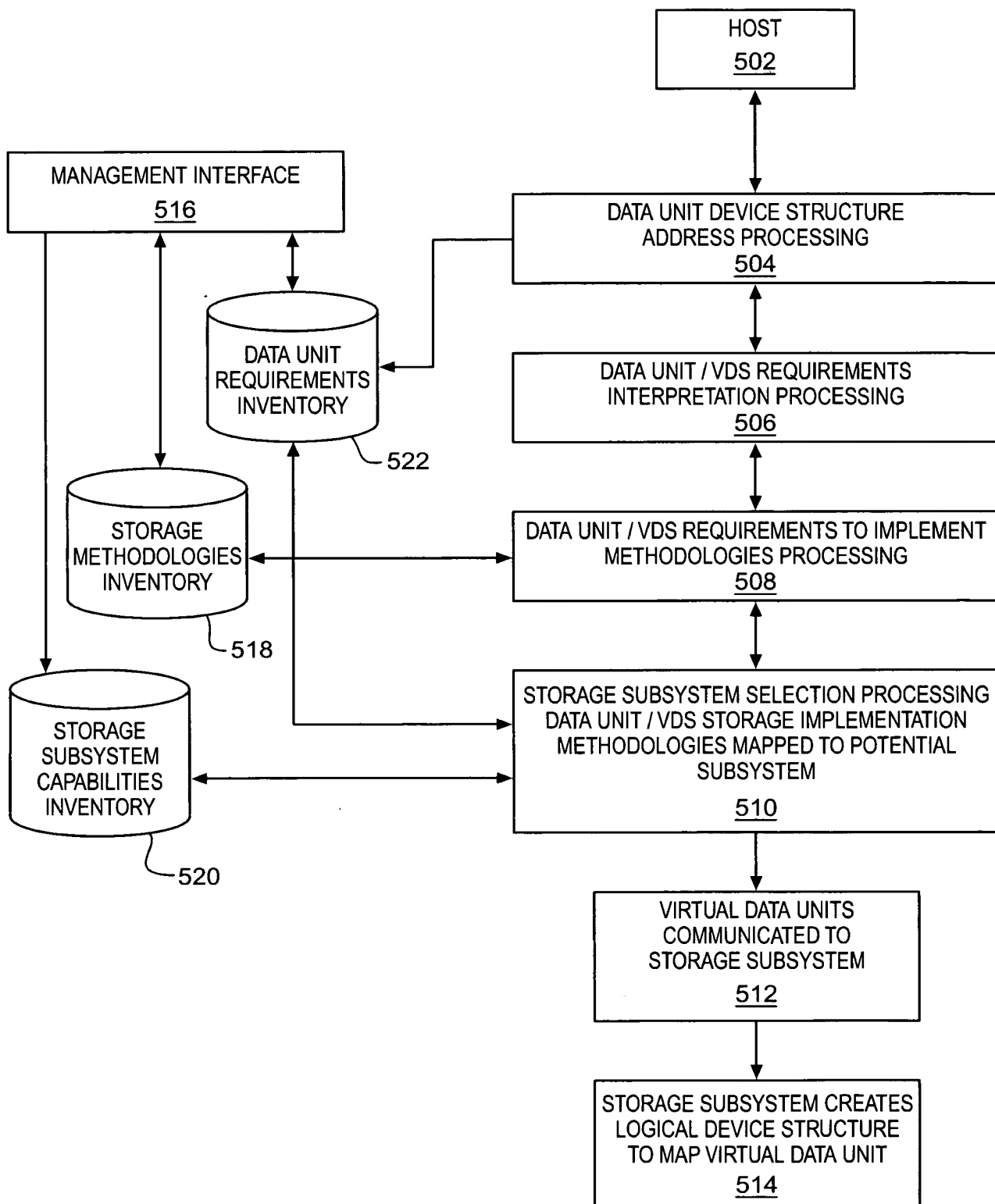




FIG. 6

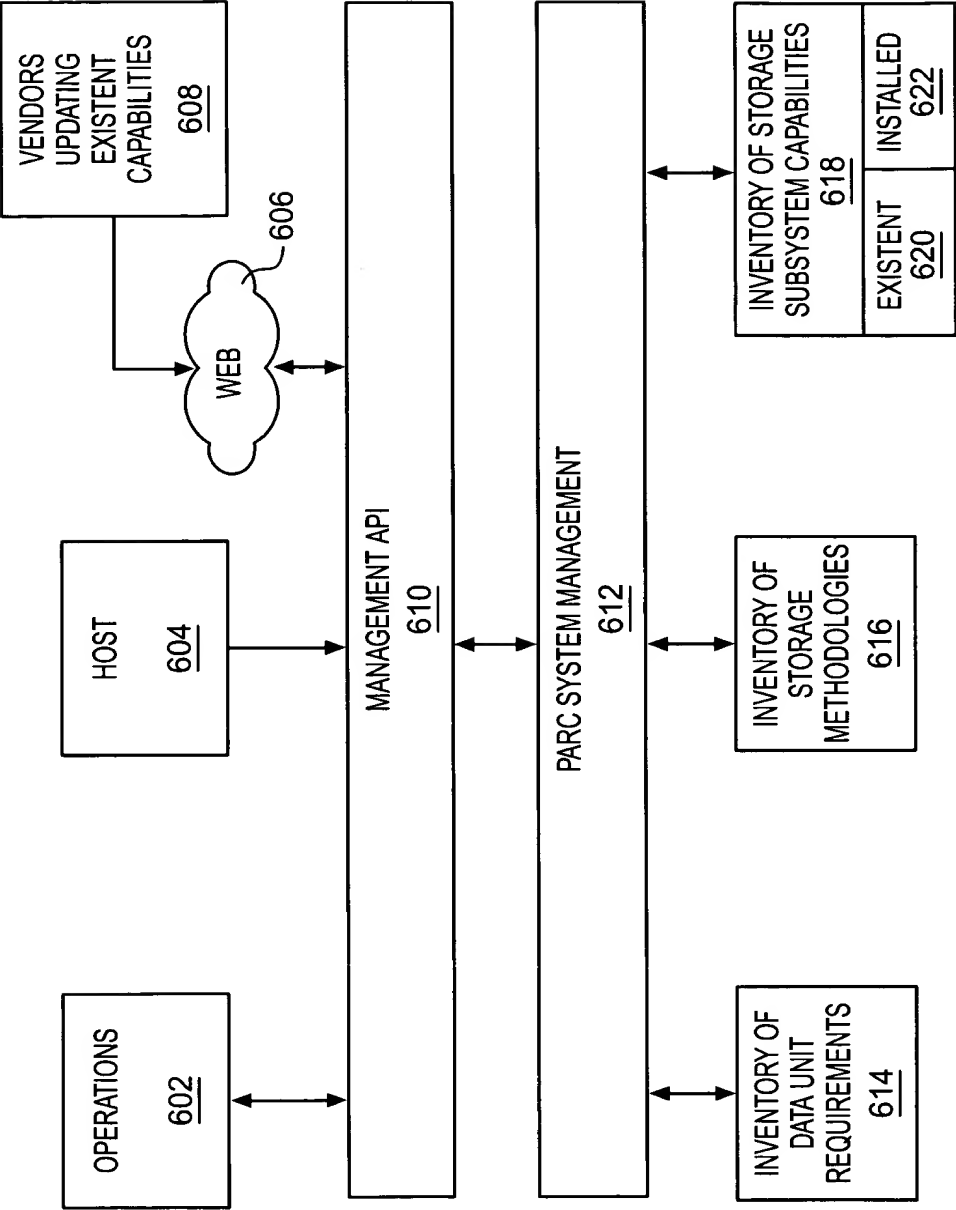
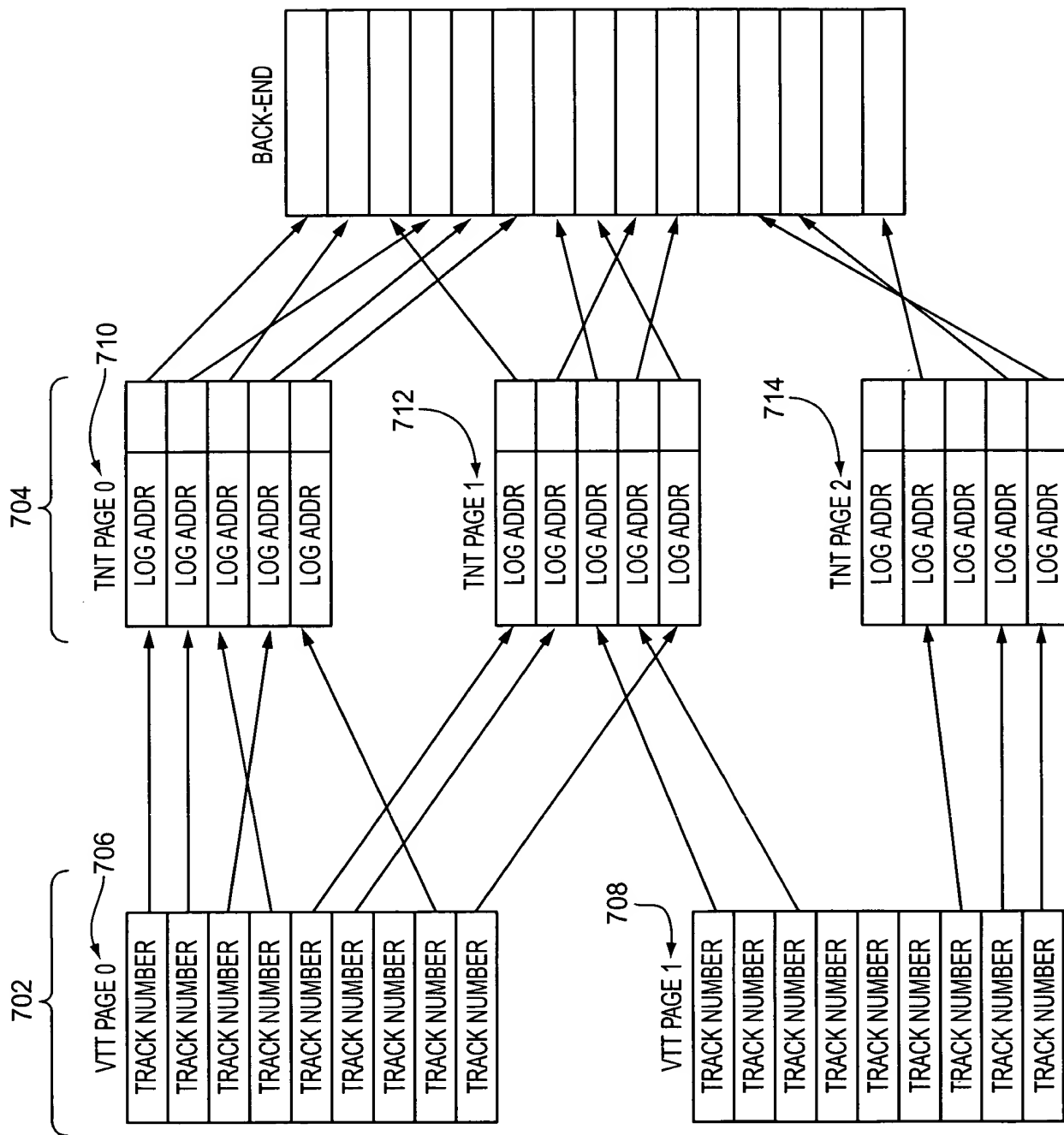


FIG. 7



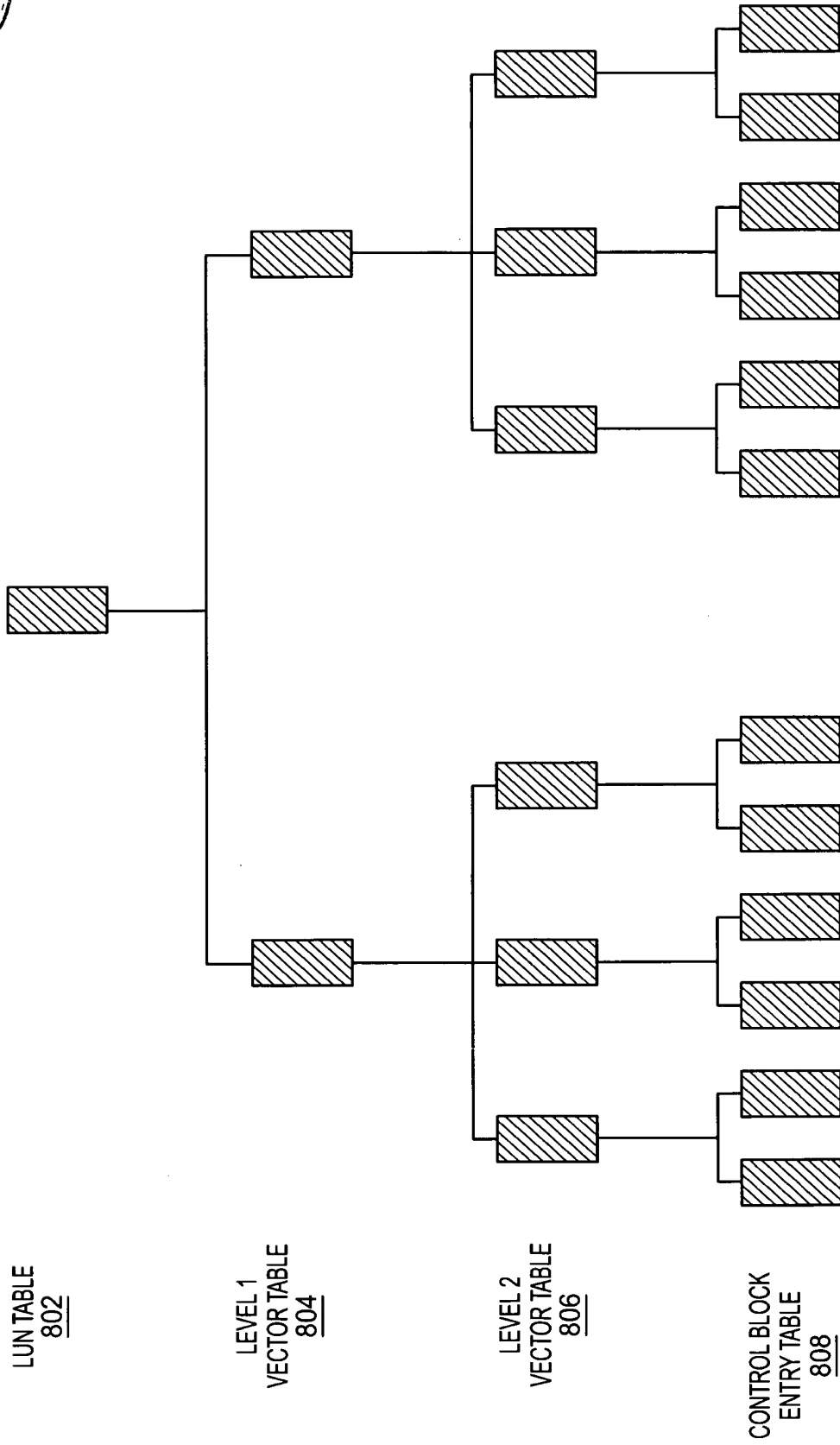
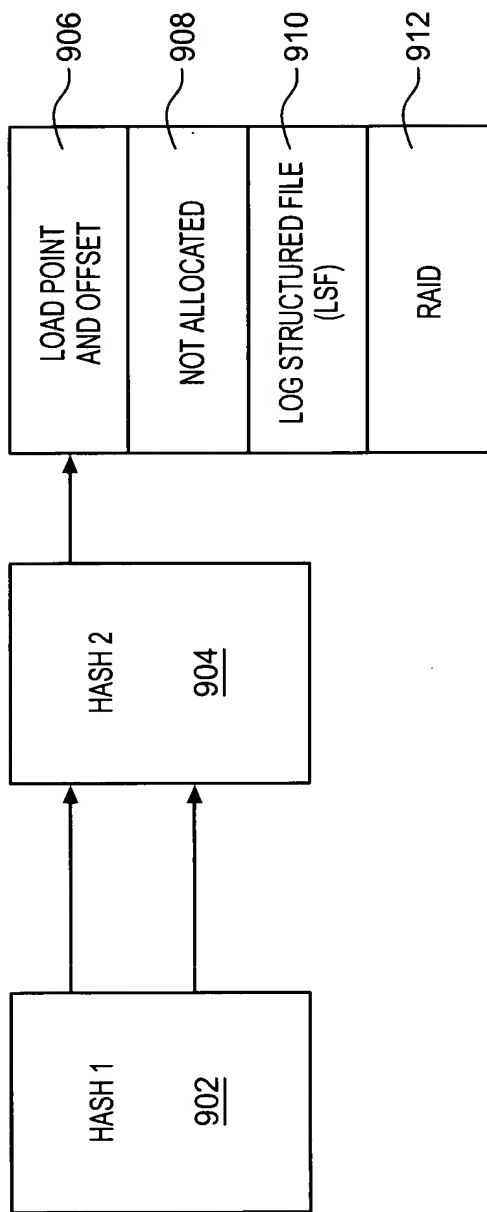


FIG. 8



**FIG. 9**

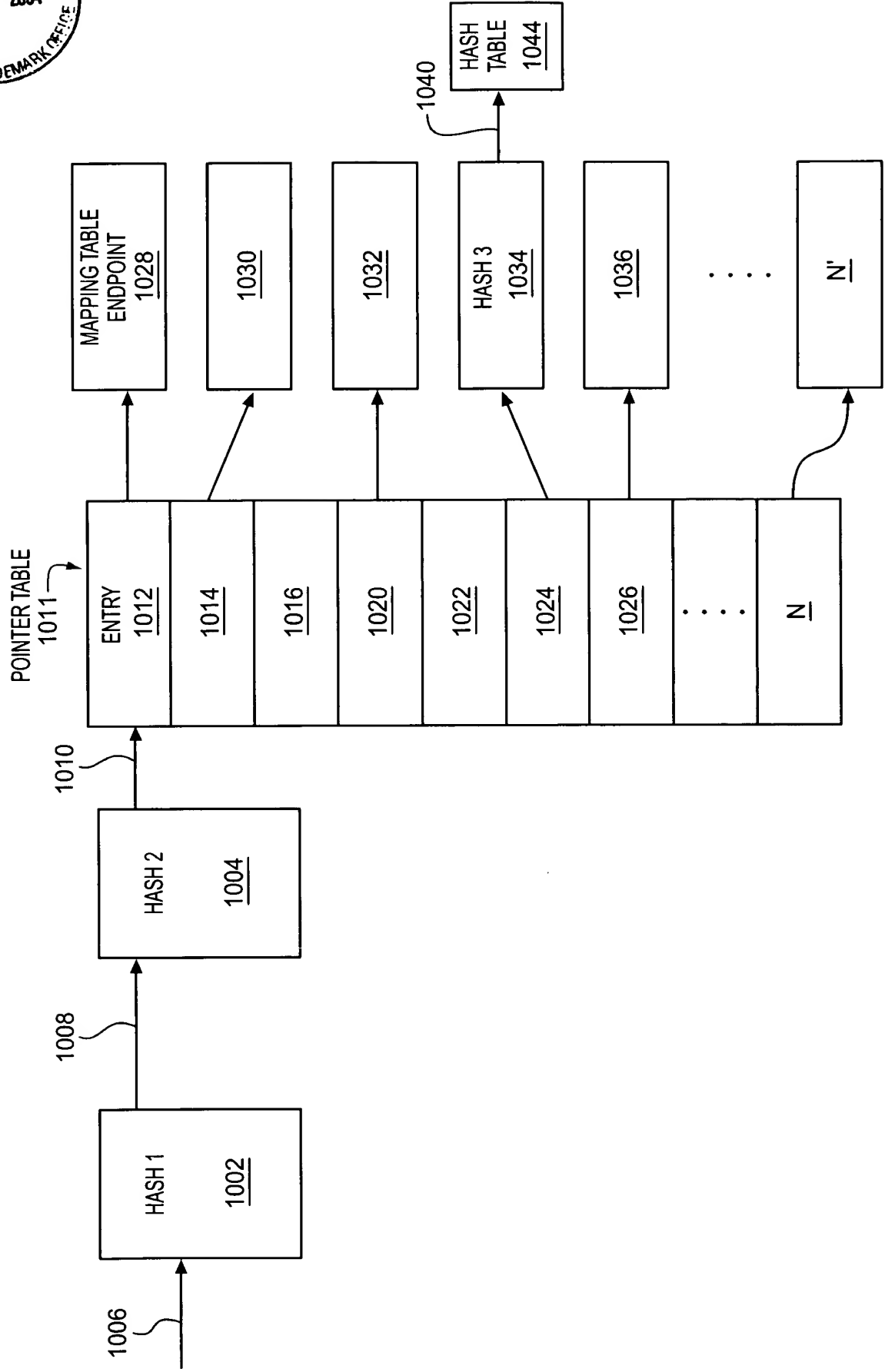


FIG. 10

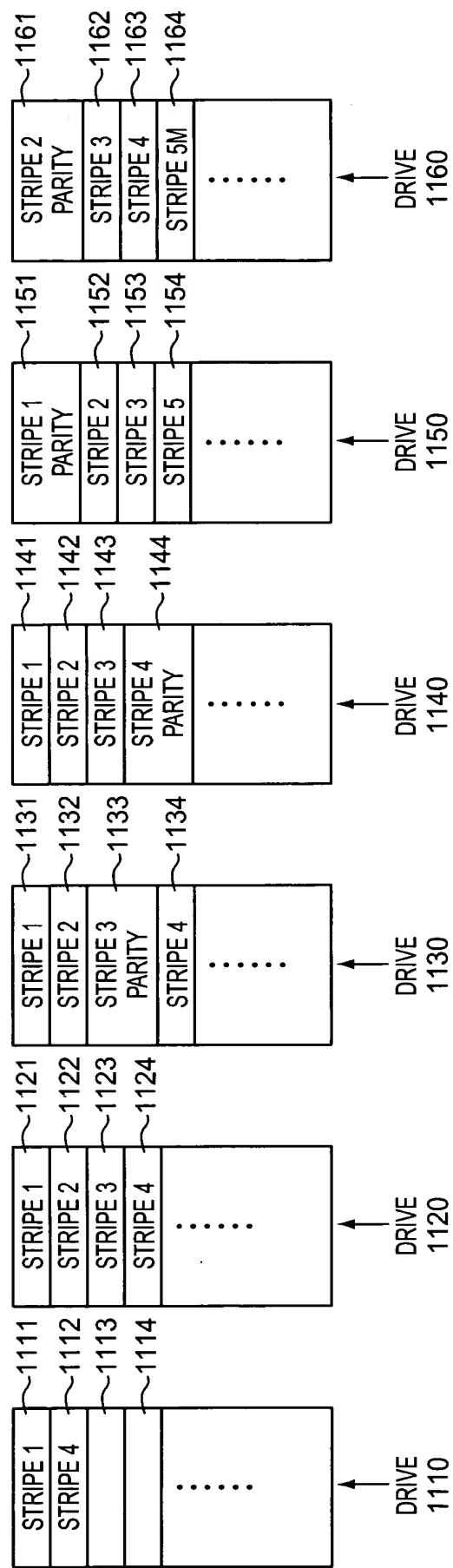


FIG. 11

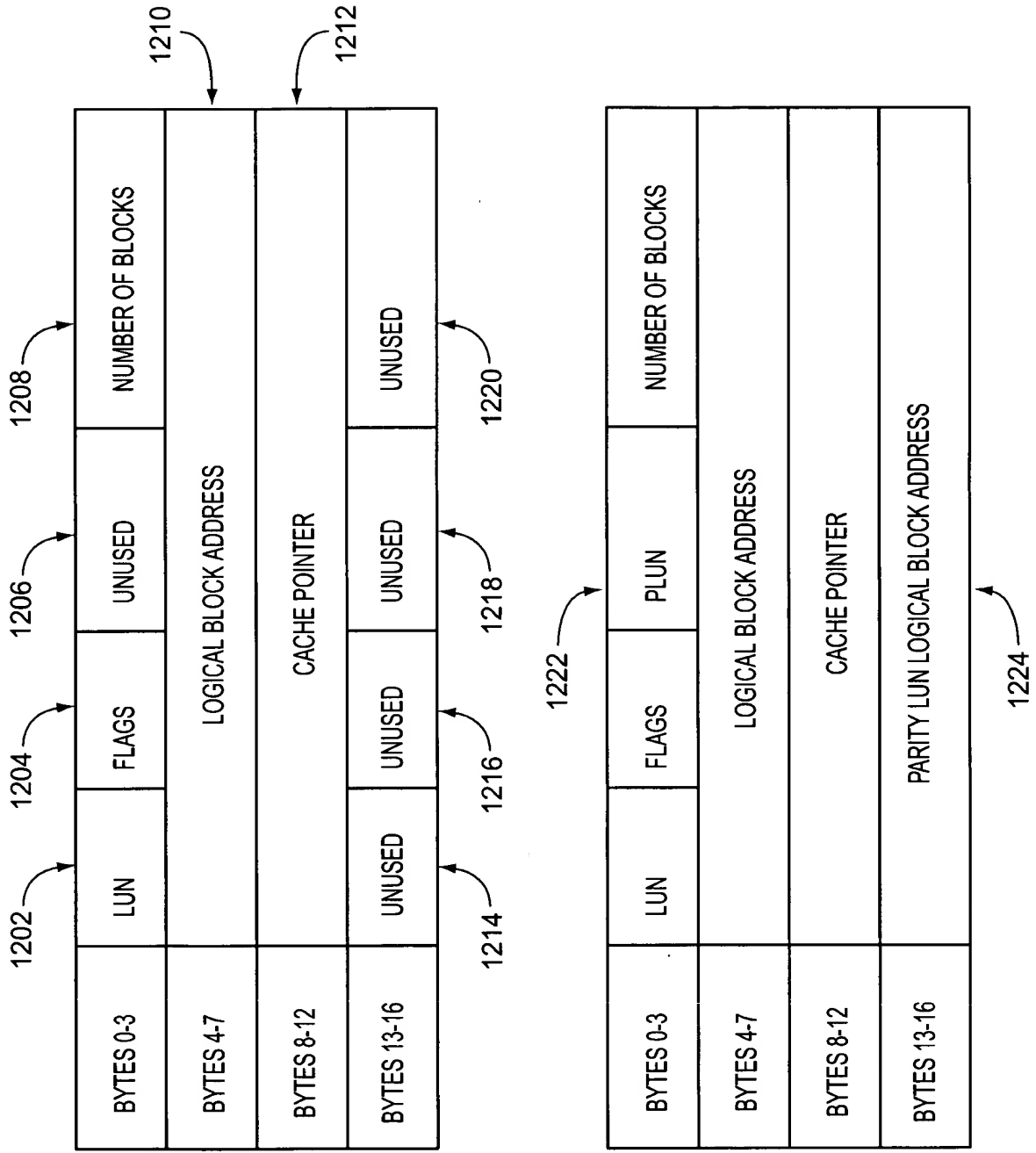


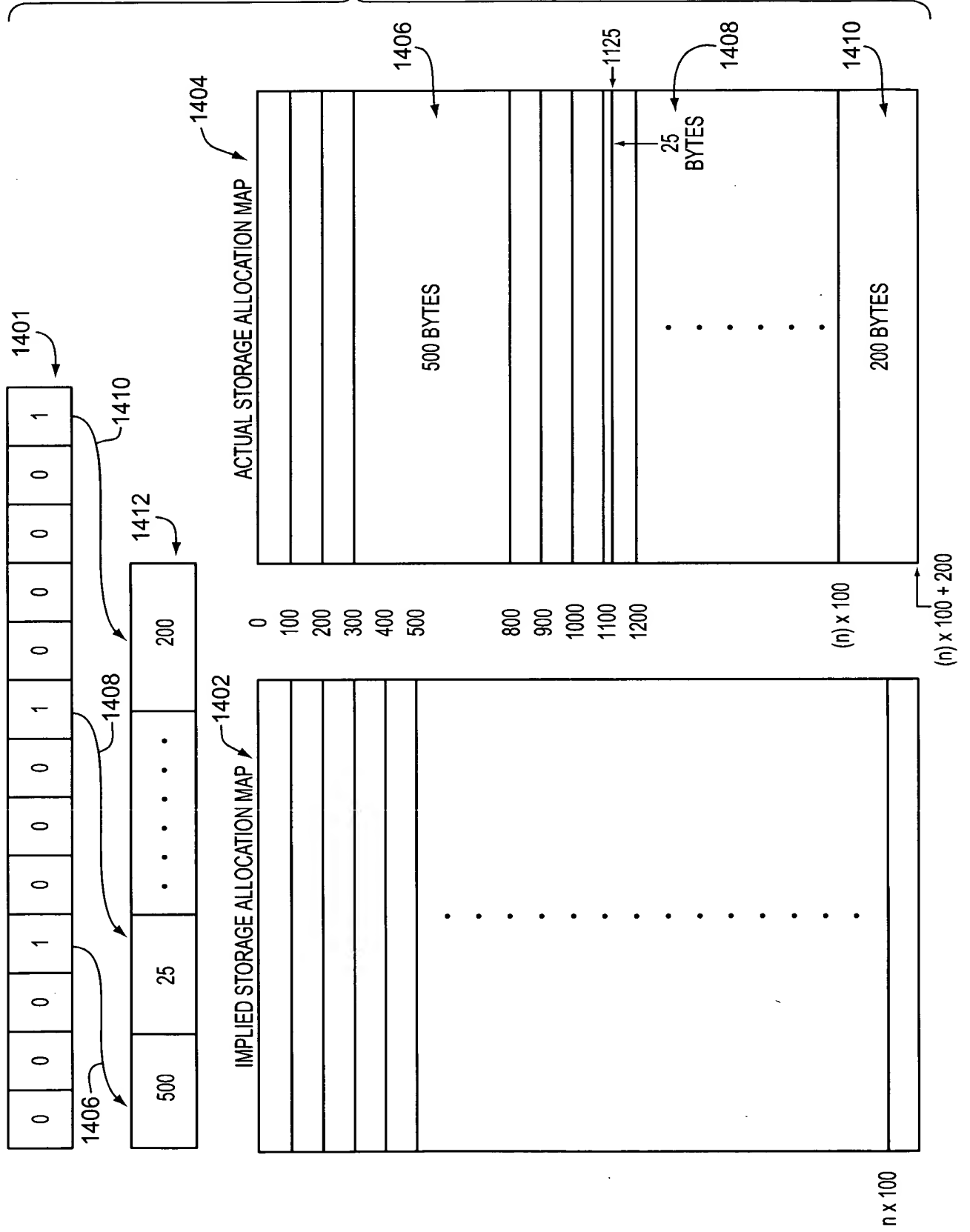
FIG. 12



**FIG. 13**

TIMESTAMP				
LBA OF PREVIOUS STRIPE				
PREVIOUS STRIPE LUN	INDEX OF PARITY DRIVE	RAID TYPE OF STRIPE	# OF STRIPS IN STRIP	
STRIP SIZE IN BLOCKS				
1st LUN IN STRIPE	ACTIVE COUNT	# OF HOST PIECES IN STRIP	UNUSED	
LBA OF DATA ON 1st LUN				
2nd LUN IN STRIPE	ACTIVE COUNT	# OF HOST PIECES IN STRIP	UNUSED	
LBA OF DATA ON 2nd LUN				
Nth LUN IN STRIPE	ACTIVE COUNT	# OF HOST PIECES IN STRIP	UNUSED	
LBA OF DATA ON Nth LUN				
HOST LUN	LENGTH IN STRIP	HOST LENGTH		
HOST LBA				
HOST LUN	LENGTH IN STRIP	HOST LENGTH		
HOST LBA				

FIG. 14



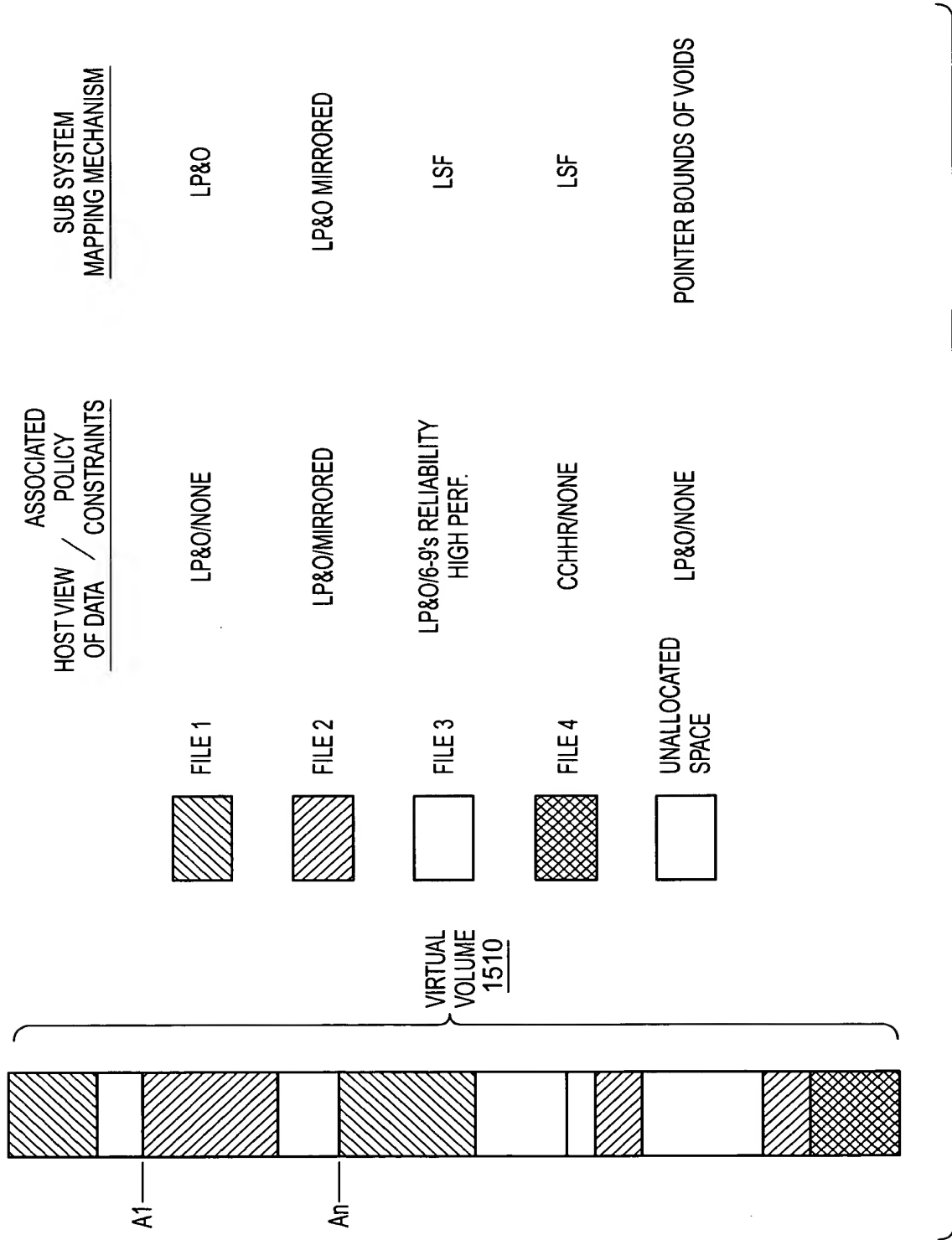
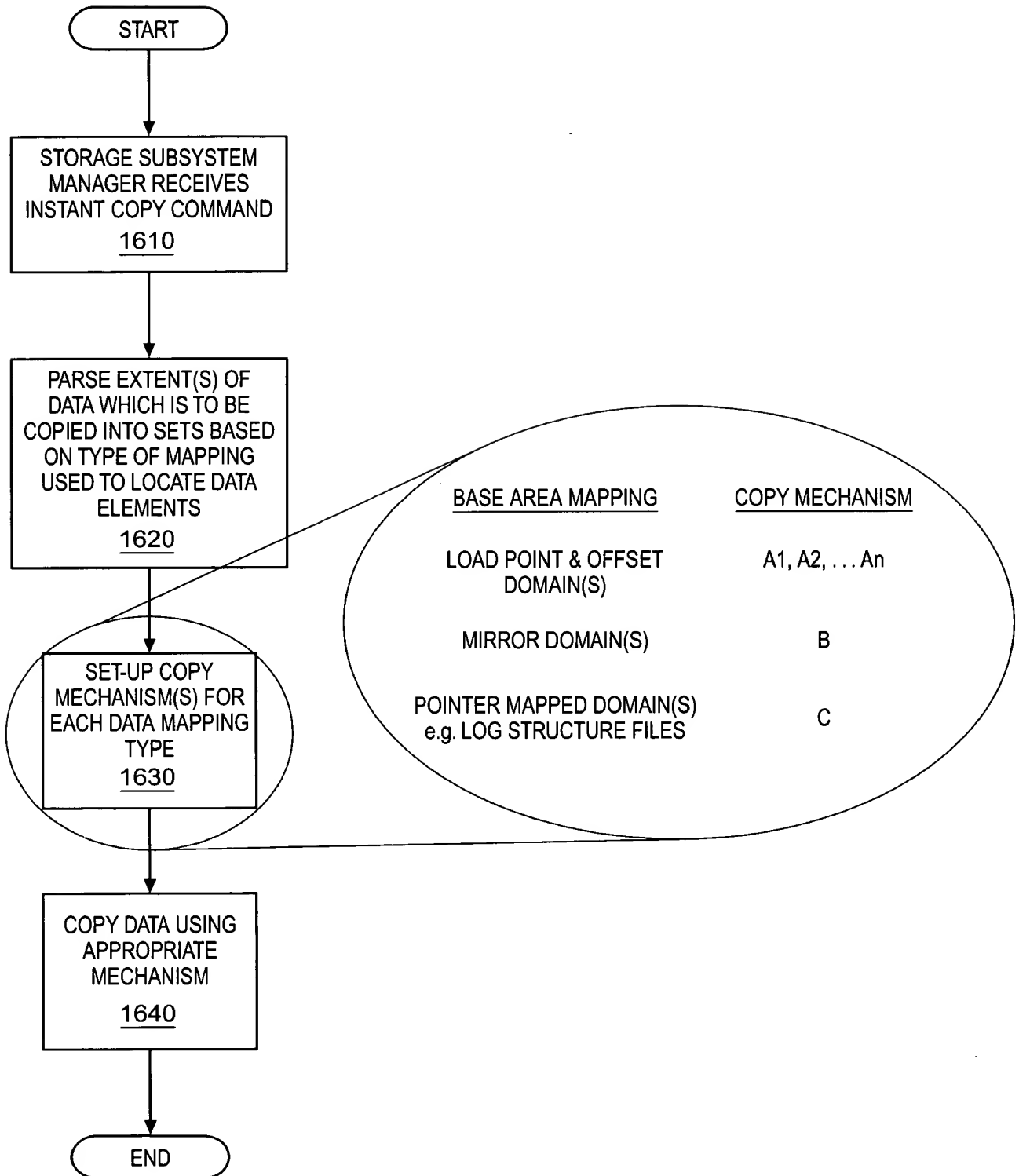


FIG. 15



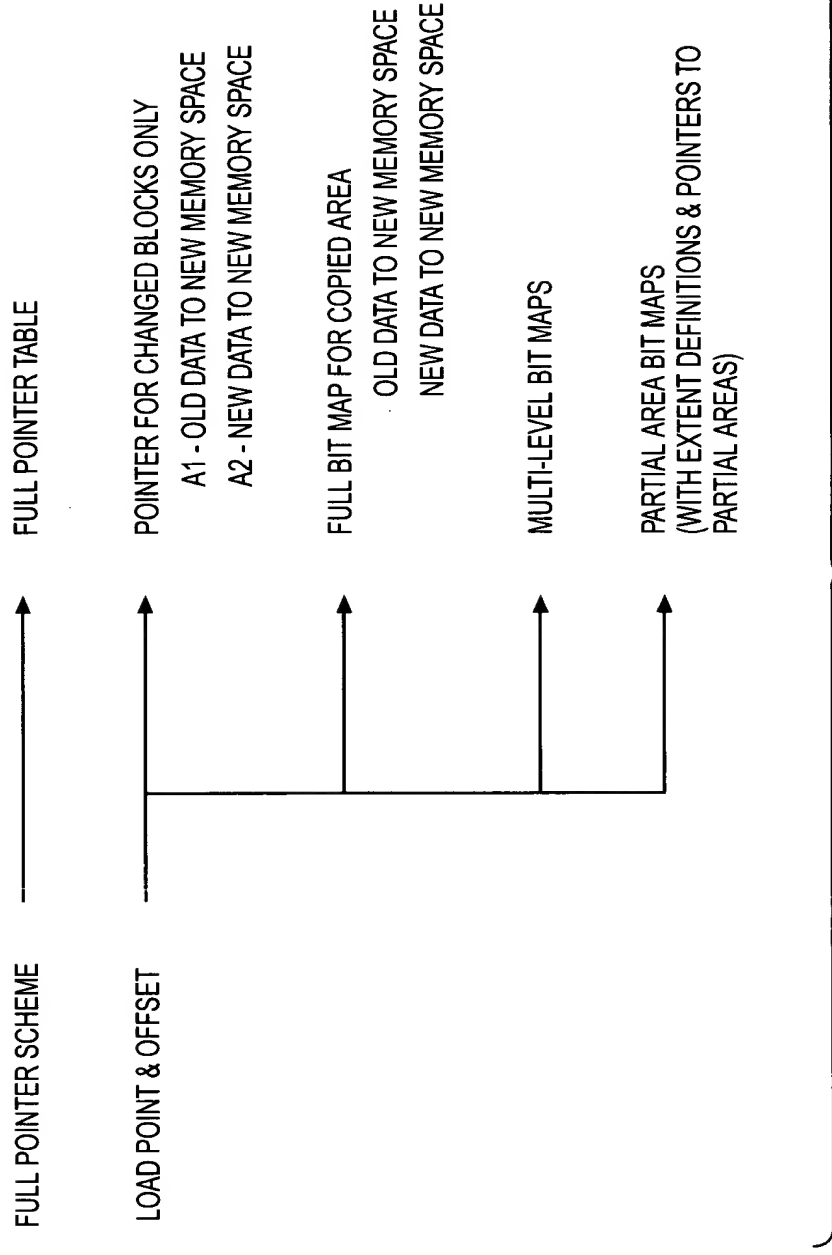
**FIG. 16**



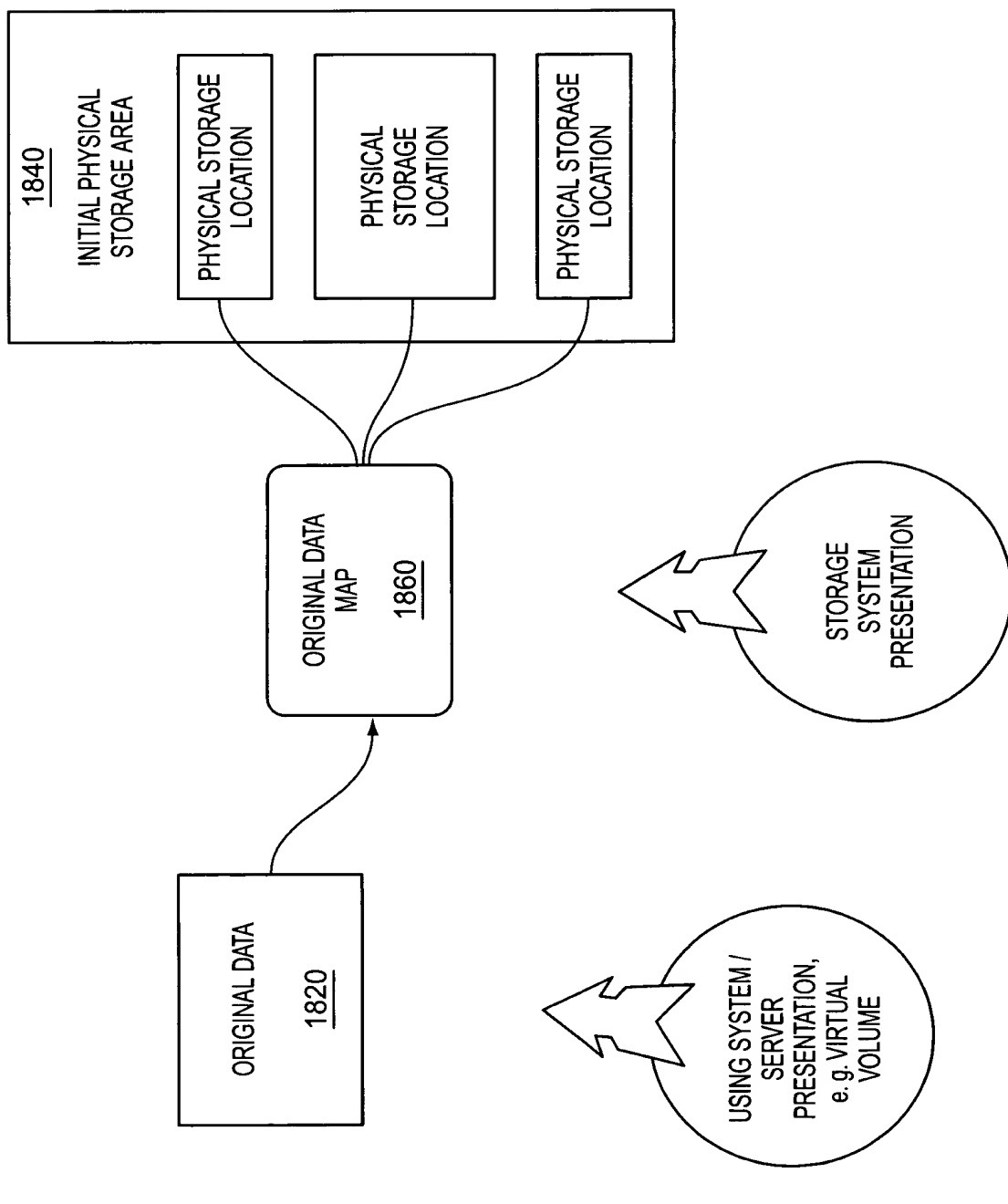


ORIGINAL MAPPING

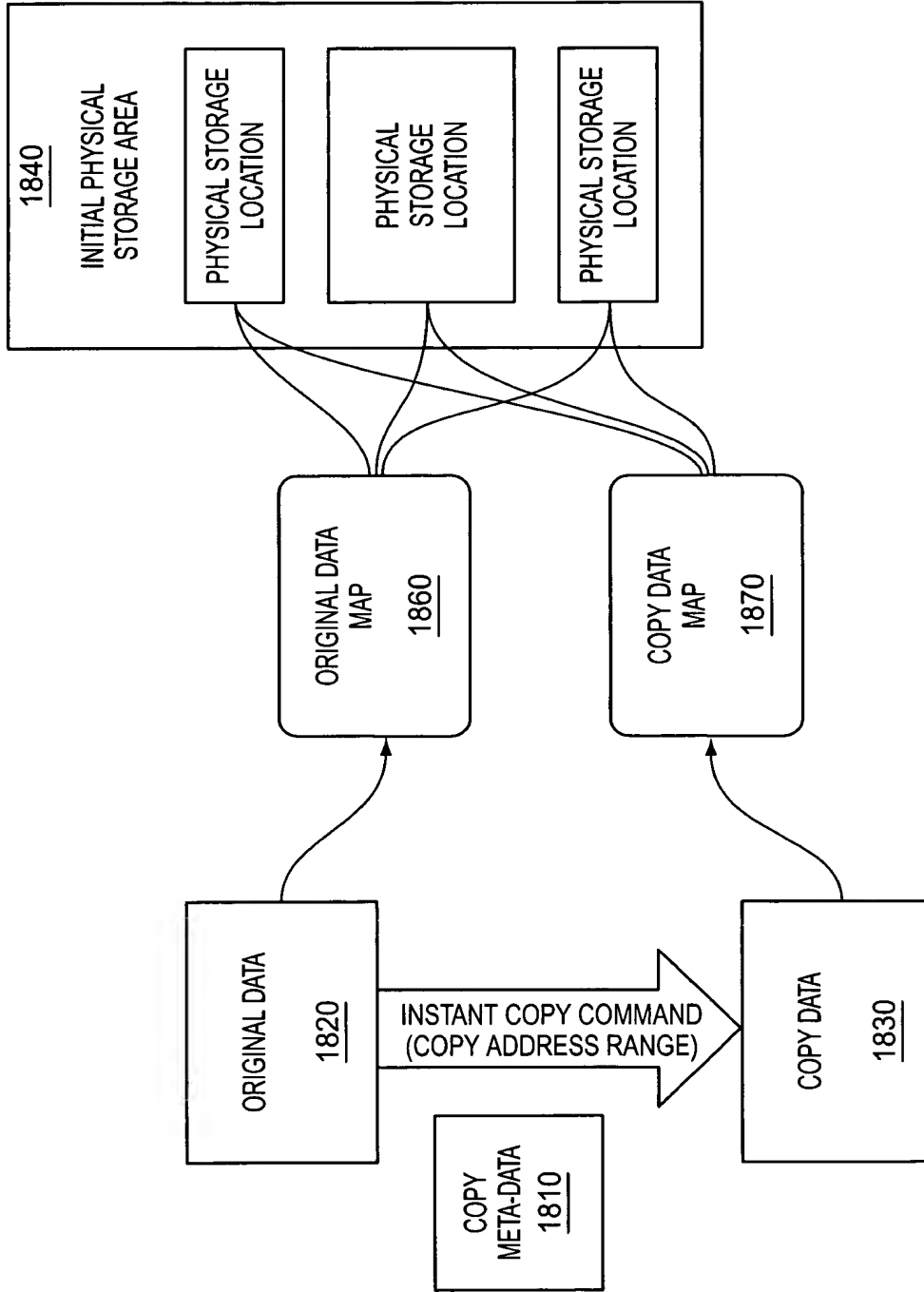
INSTANT COPY META-DATA TYPE



**FIG. 17**



**FIG. 18A**



**FIG. 18B**  
**PRIOR ART**

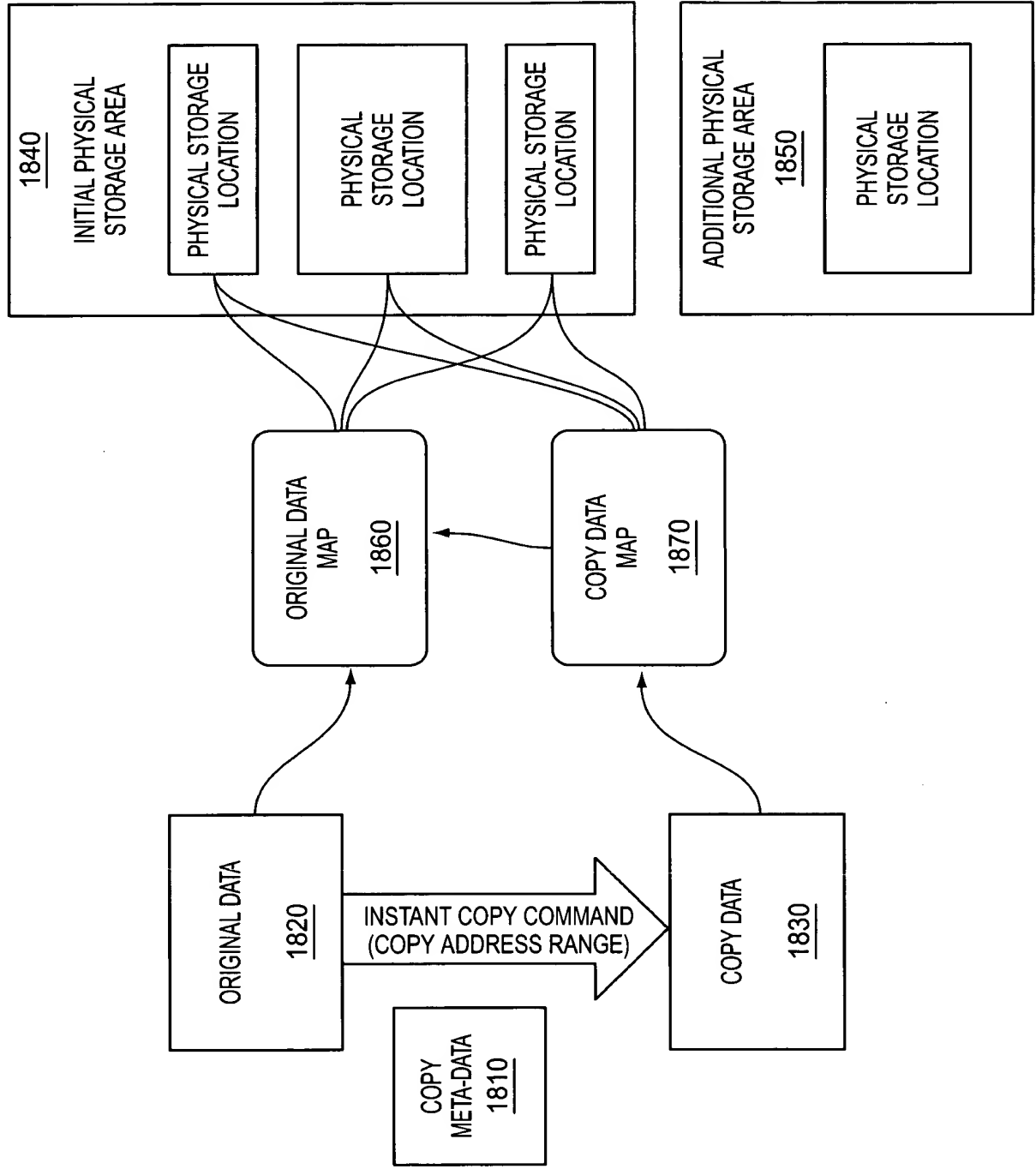


FIG. 18C

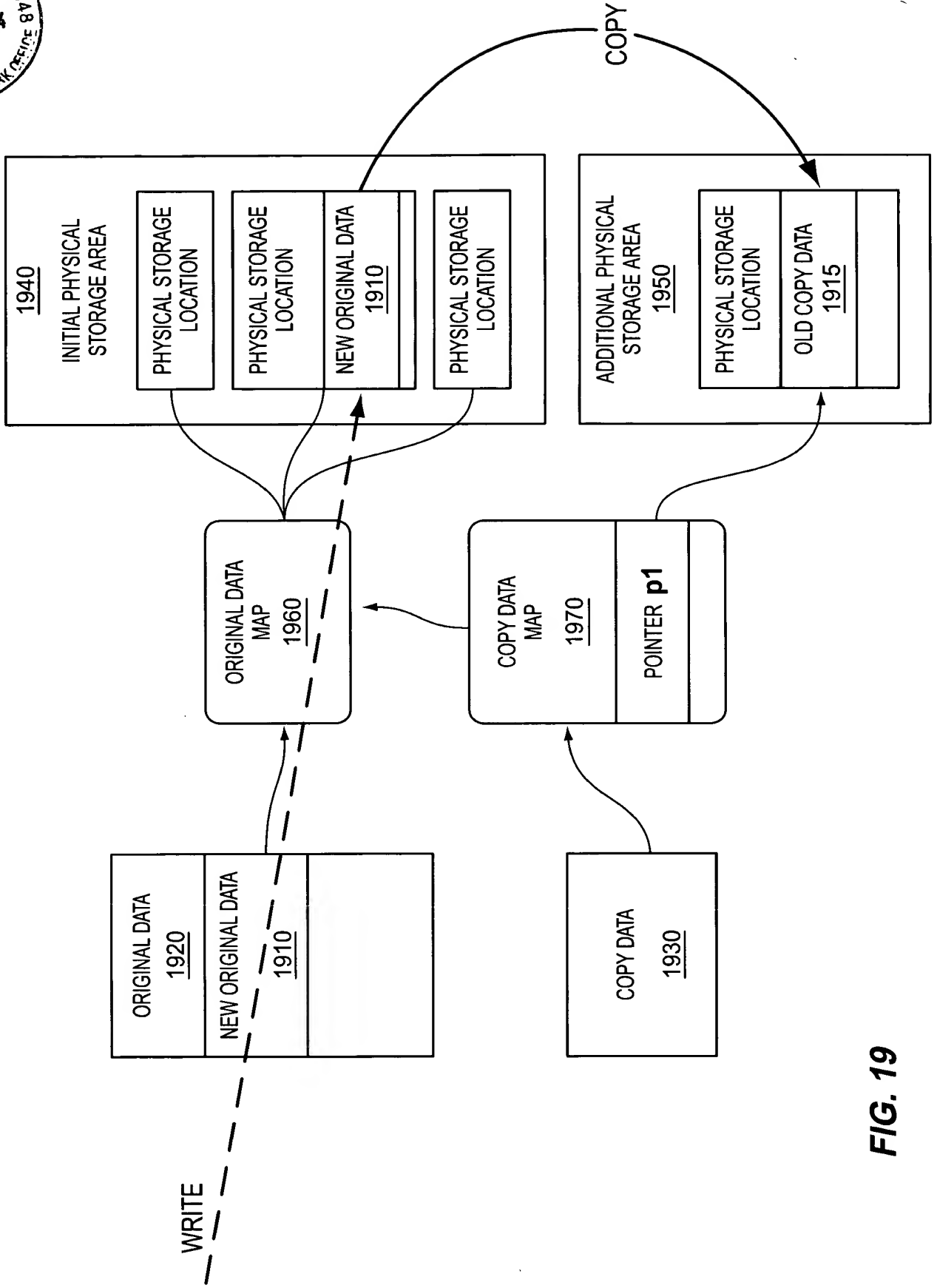


FIG. 19

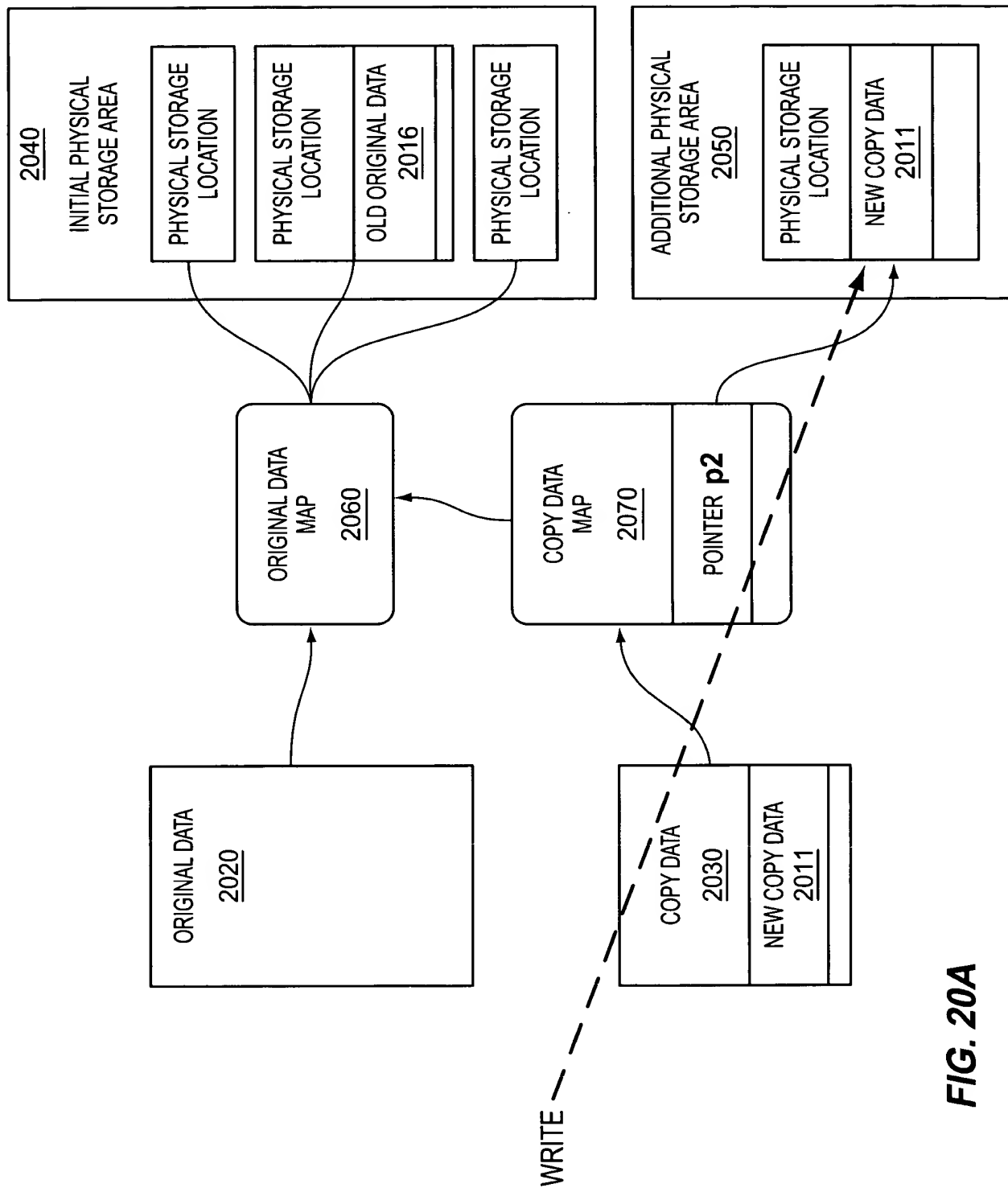


FIG. 20A

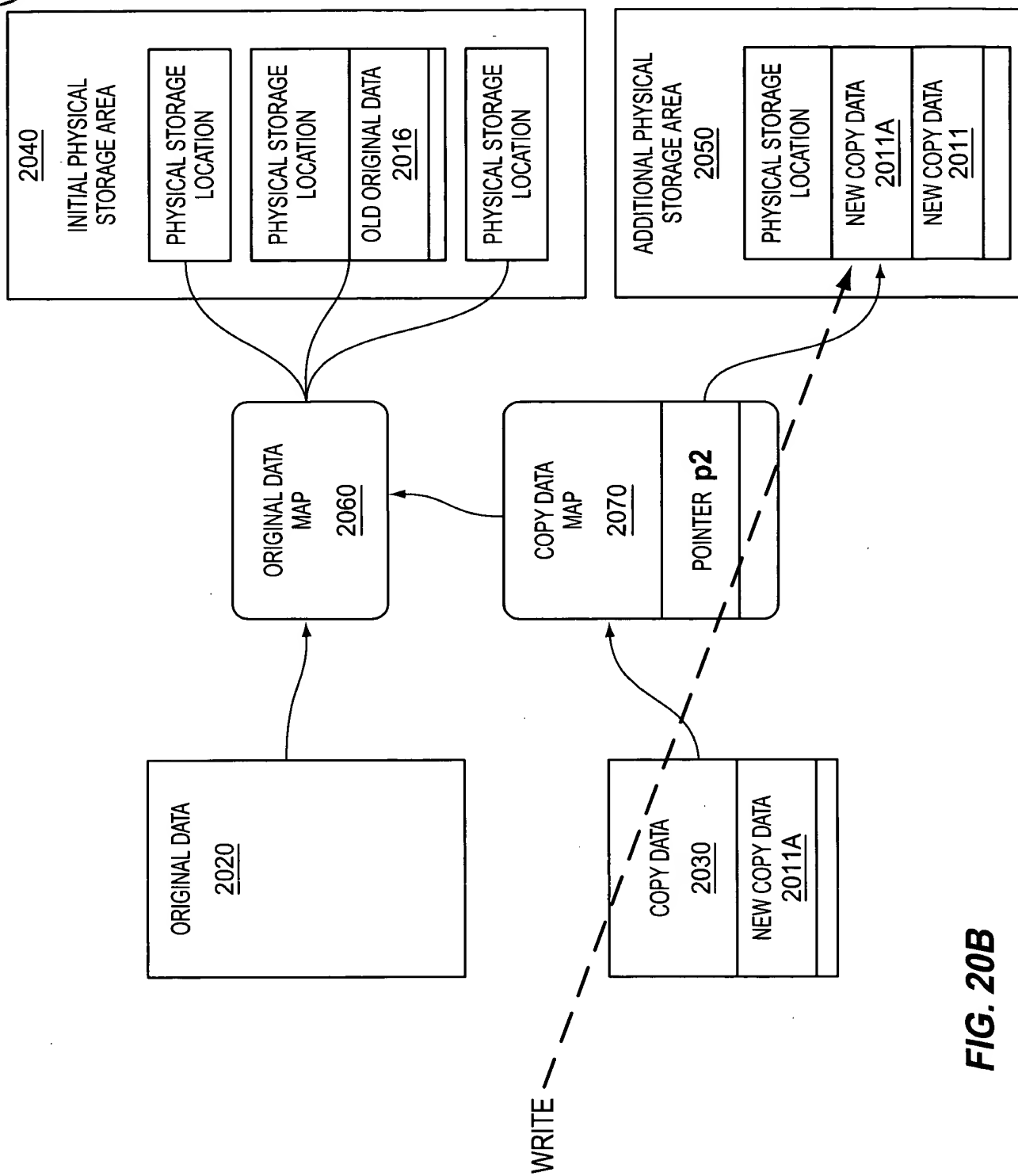


FIG. 20B

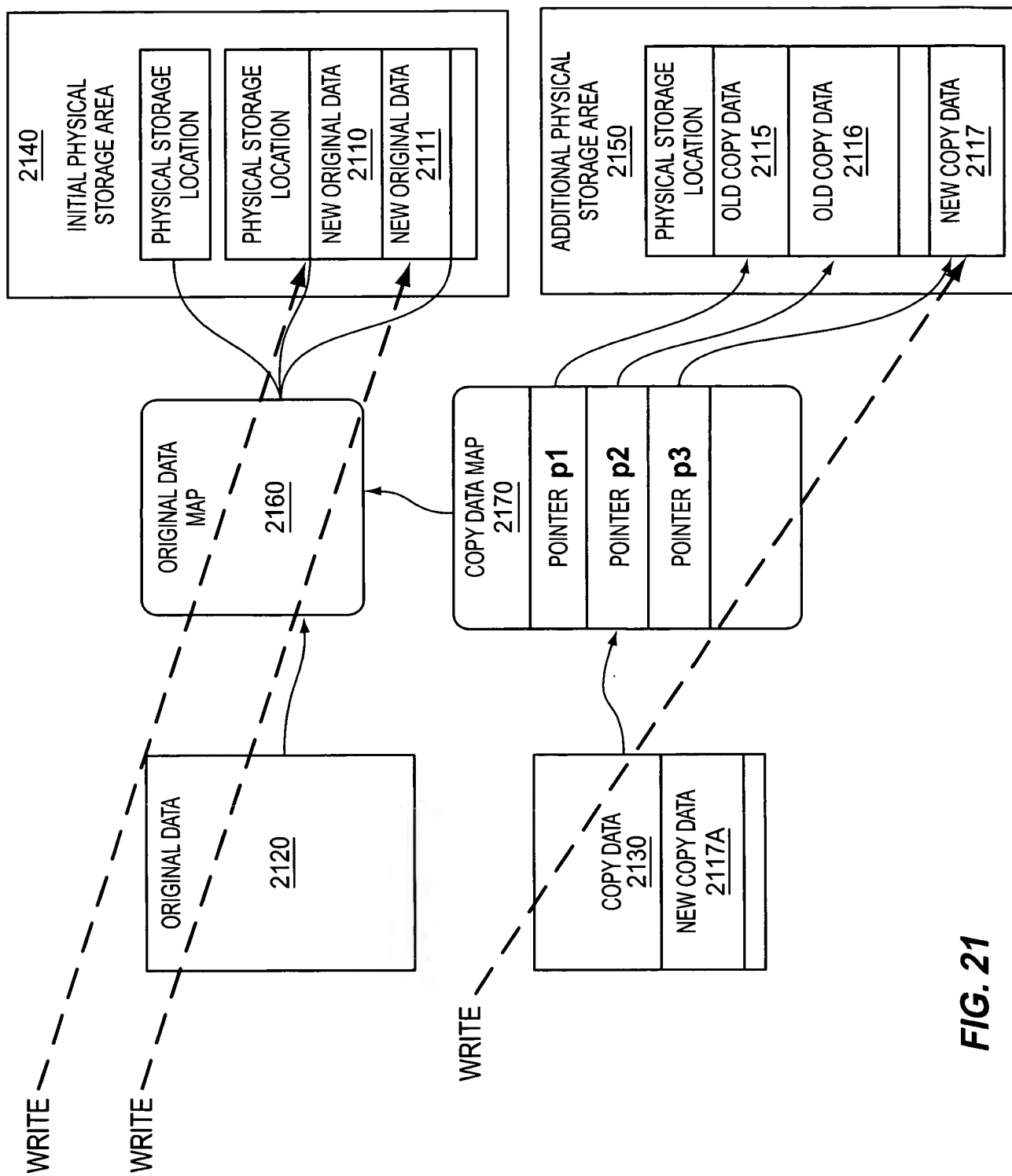


FIG. 21

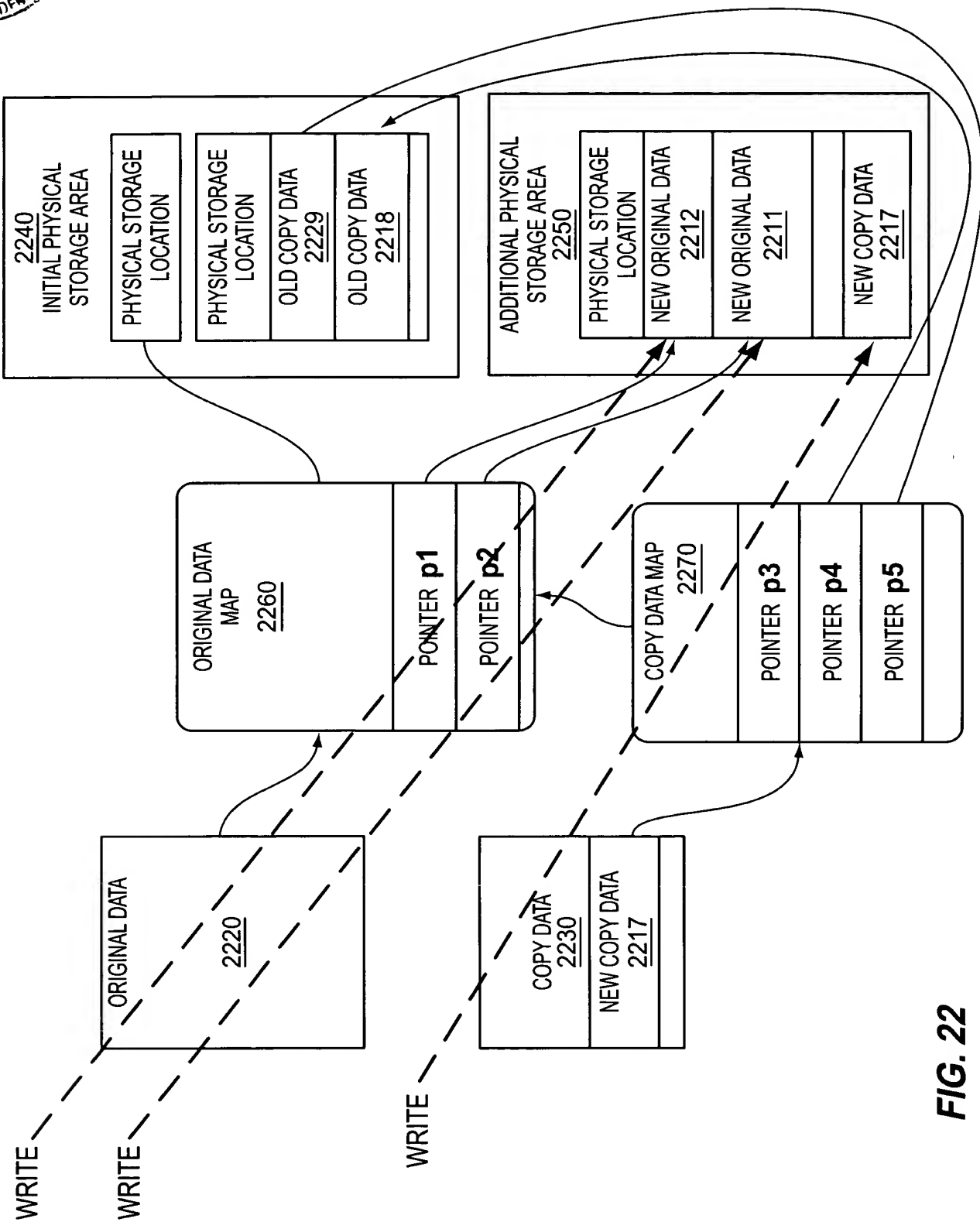


FIG. 22

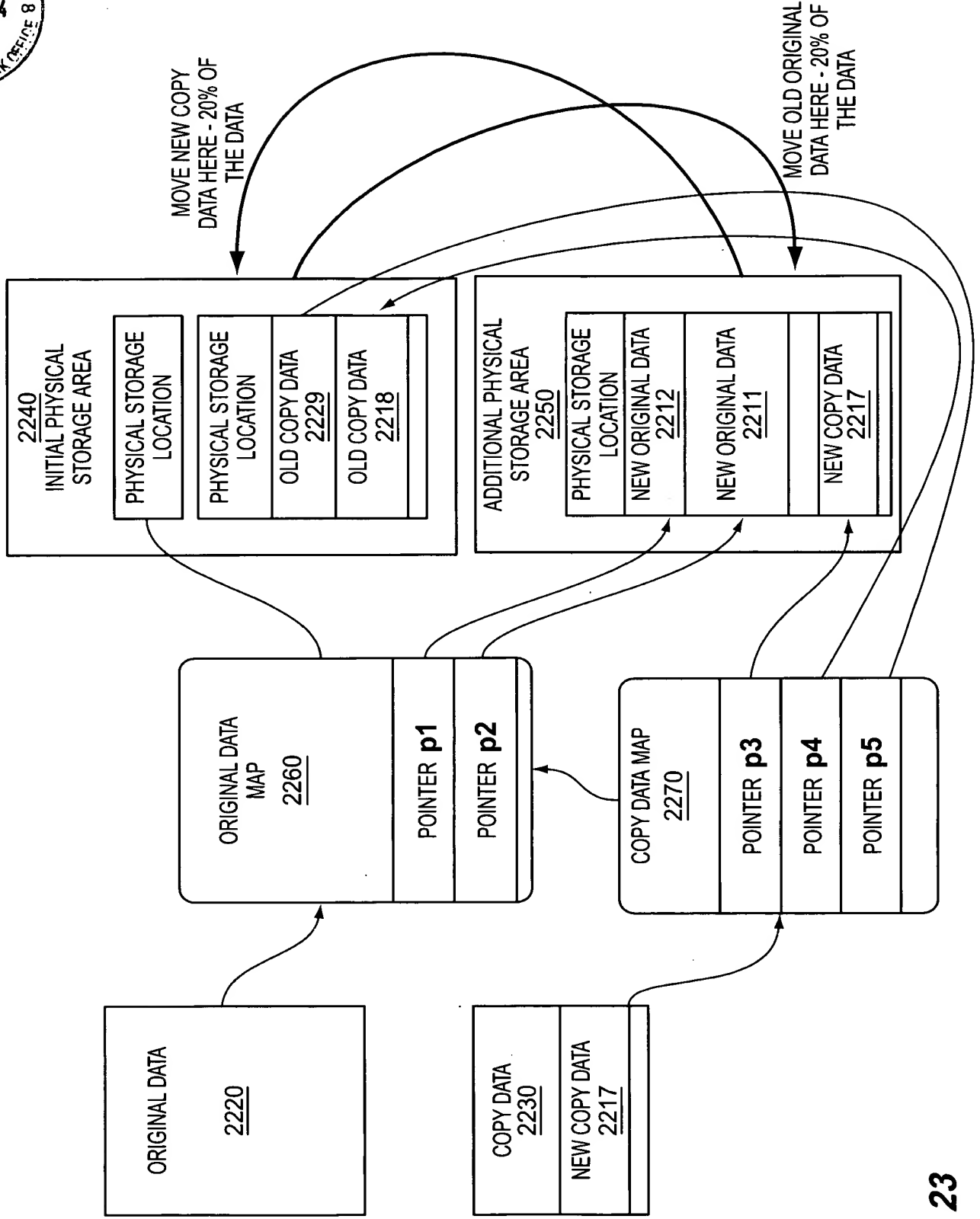
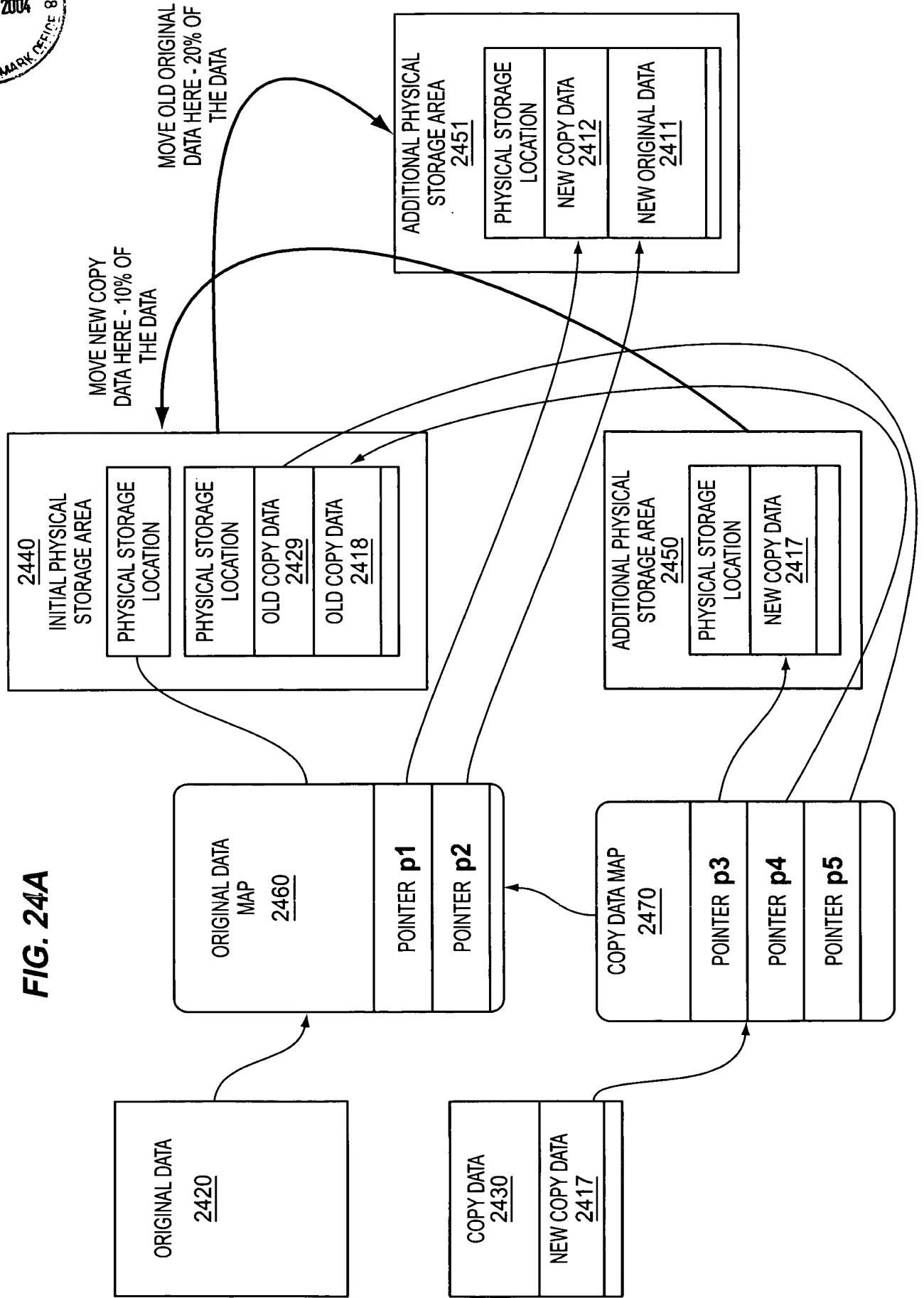


FIG. 23

**FIG. 24A**



**FIG. 24B**

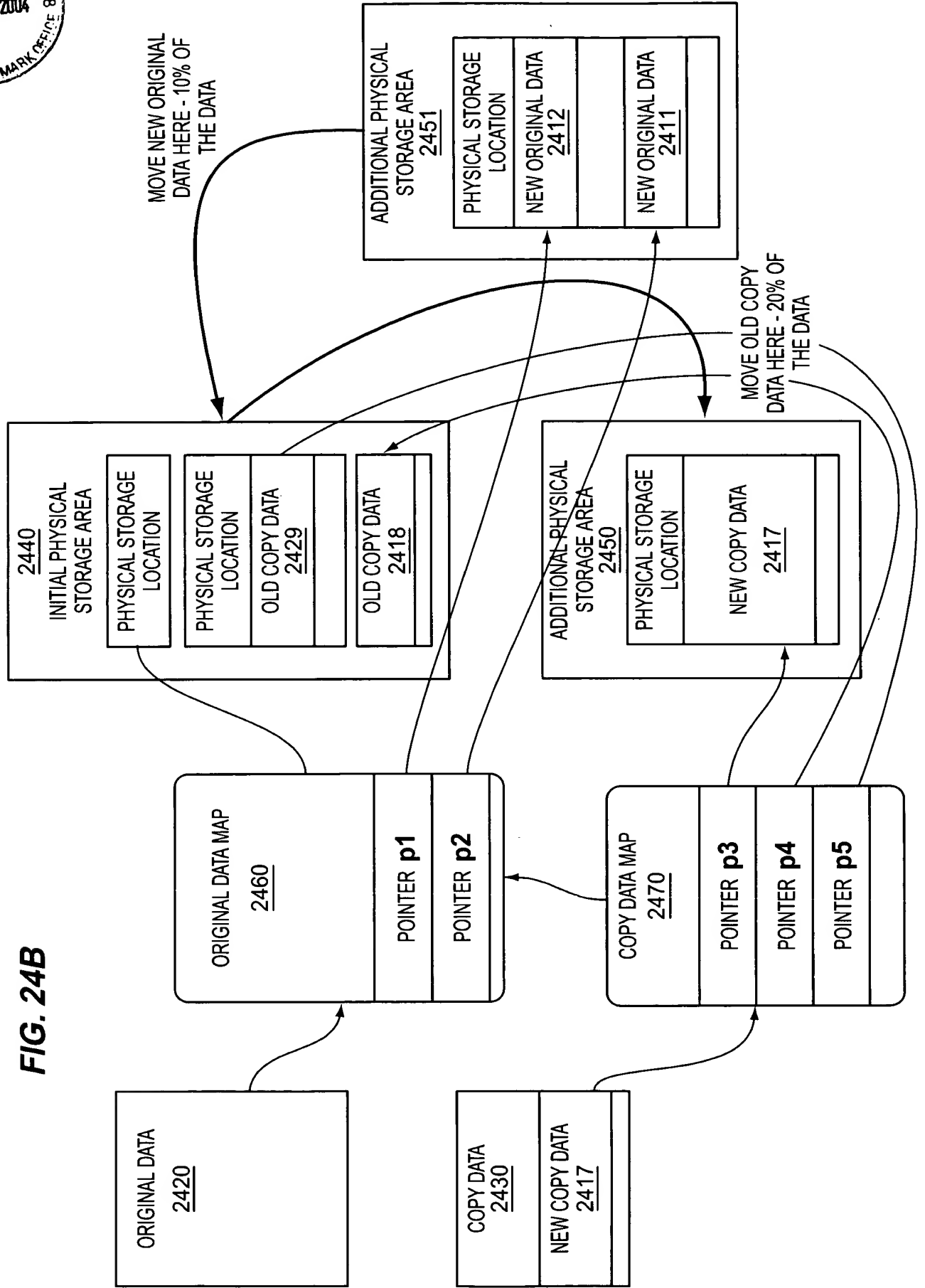
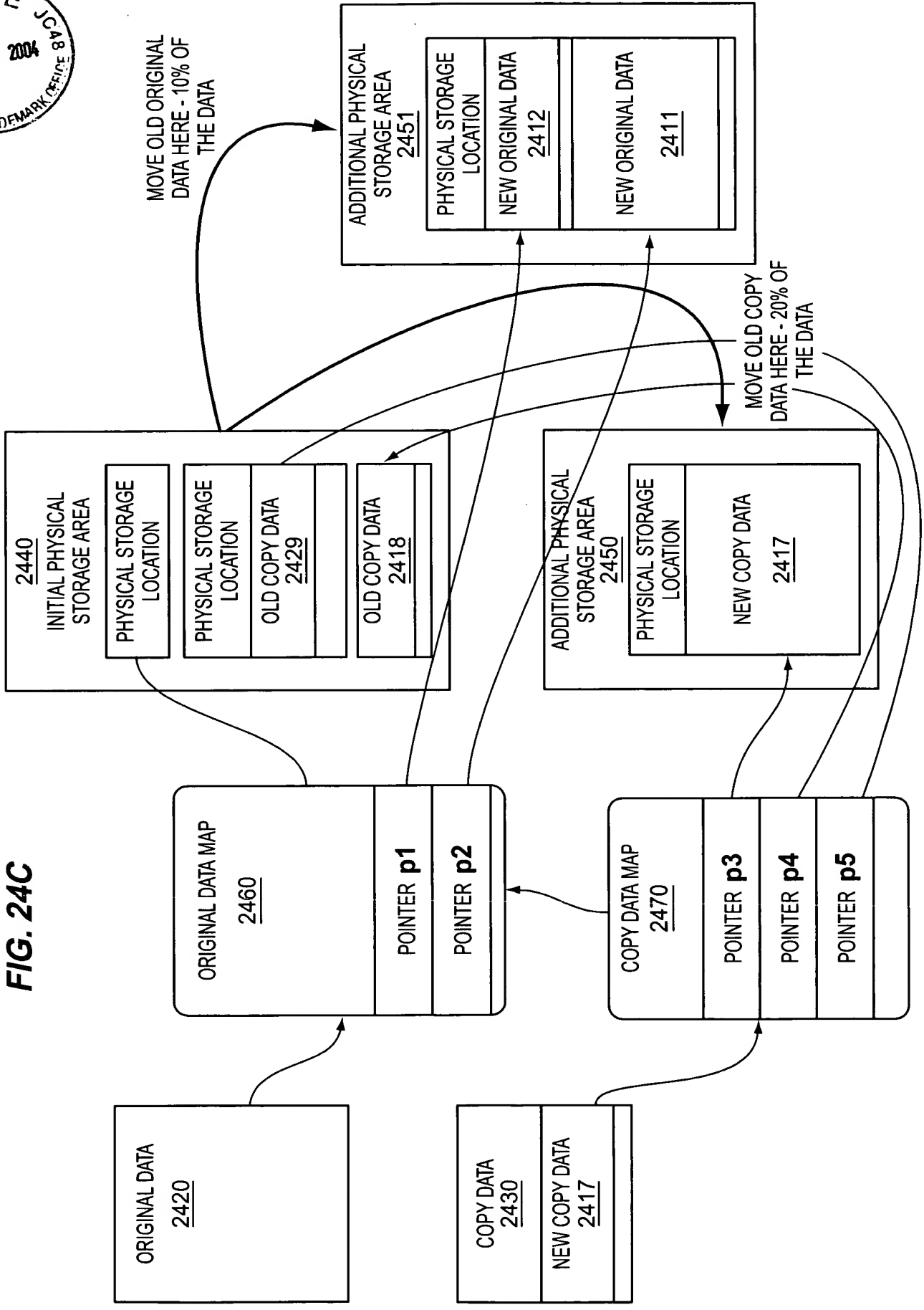
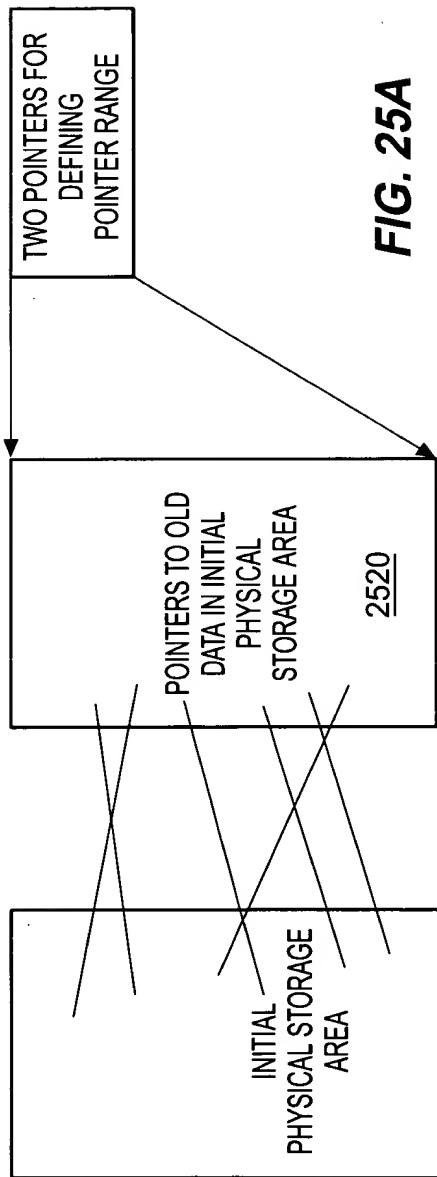


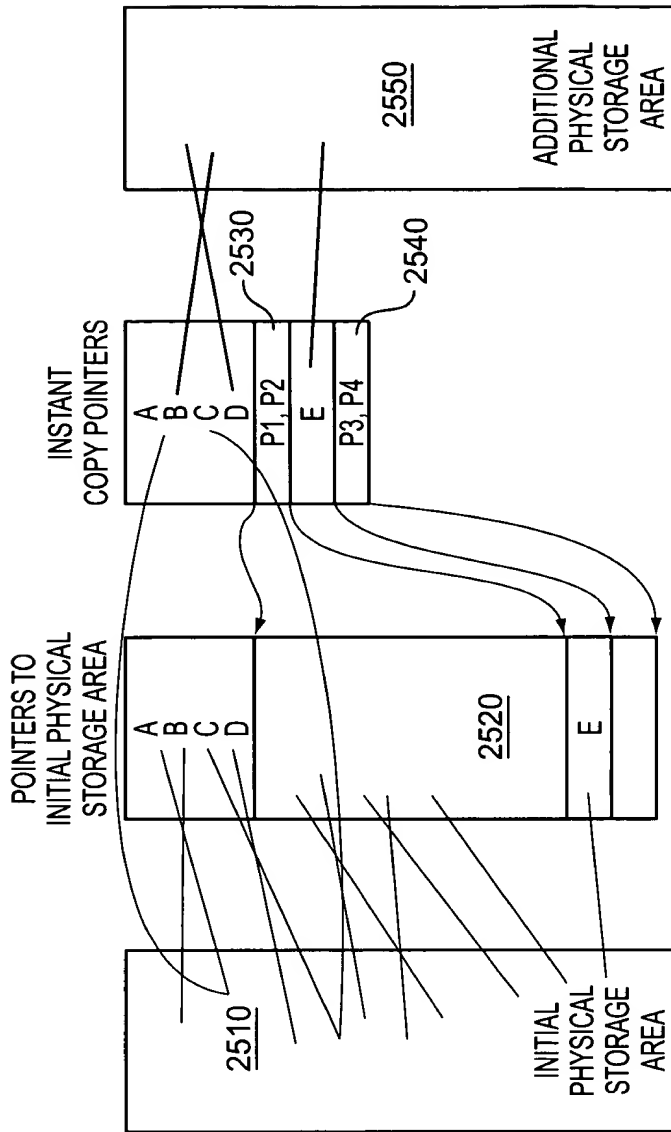


FIG. 24C





**FIG. 25A**



**FIG. 25B**